

# 3<sup>rd</sup> MEETING OF THE PORTUGUESE SOCIETY FOR DEVELOPMENTAL BIOLOGY



JOINTLY WITH THE

SPANISH SOCIETY FOR  
DEVELOPMENTAL BIOLOGY



BRITISH SOCIETY FOR  
DEVELOPMENTAL BIOLOGY



# 7-10 OCTOBER 2015

A L F A M A R  
BEACH & SPORT  
R E S O R T  
ALGARVE  
PORTUGAL

## KEYNOTE SPEAKERS

- AUSTIN SMITH (CAMBRIDGE, UK)
- MOISÉS MALLO (OEIRAS, PORTUGAL)

## INVITED SPEAKERS

- KATE STOREY (DUNDEE, UK)
- CRISTINA PUJADES (BARCELONA, SPAIN)
- LEONOR SAÚDE (LISBON, PORTUGAL)
- ANA CARMENA (ALICANTE, SPAIN)
- JUAN R. MARTINEZ-MORALES (SEVILLE, SPAIN)
- BERENIKA PLUSA (MANCHESTER, UK)
- SALLY LOWELL (EDINBURGH, UK)
- ANDREW JOHNSON (NOTTINGHAM, UK)
- FRANÇOIS GUILLEMOT (LONDON, UK)
- CLAUDIA BARROS (PLYMOUTH, UK)
- RITA SOUSA NUNES (LONDON, UK)
- ANNA PHILPOTT (CAMBRIDGE, UK)
- ELSA MARTI (BARCELONA, SPAIN)
- RUI MARTINHO (FARO, PORTUGAL)
- ANDREW OATES (LONDON, UK)
- RUI BENEDITO (MADRID, SPAIN)
- ANA POMBO (BERLIN, GERMANY)
- JOSÉ LUÍS GOMEZ-SKARMETA (SEVILLE, SPAIN)

EARLY-BIRD

REGISTRATION

UNTIL 22 JUNE 2015

DEADLINE FOR

ABSTRACT

SUBMISSION:

31 JULY 2015

## SCIENTIFIC COMMITTEE

ANTÓNIO JACINTO

DOMINGOS HENRIQUE

MIGUEL MANZANARES

JOSH BRICKMAN

KATE STOREY

FOR MORE INFORMATION:

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# 3<sup>RD</sup> MEETING OF THE PORTUGUESE SOCIETY FOR DEVELOPMENTAL BIOLOGY

**JOINTLY** WITH BRITISH SOCIETY FOR DEVELOPMENTAL BIOLOGY  
& SPANISH SOCIETY FOR DEVELOPMENTAL BIOLOGY

## WEDNESDAY, 7<sup>TH</sup> OCTOBER

- 14:00 - 18:00** Registration and poster setup  
**18:00 - 19:45** [Dinner](#)  
**19:45 - 20:00** Welcome  
**20:00 - 21:00** **ISDB-MOD Lecture: Austin Smith (Cambridge, UK)**  
*Principles of Pluripotency*  
**21:00 - 22:00** Welcome Reception

## THURSDAY, 8<sup>TH</sup> OCTOBER

### SESSION I: CELL BIOLOGY & DEVELOPMENT

Chair: António Jacinto

- 09:00 - 09:30** **Kate Storey** (Dundee, UK)  
*Mechanisms of neural differentiation*  
**09:30 - 10:00** **Cristina Pujades** (Barcelona, Spain)  
*Decoding the hindbrain boundaries. From the genomic landscape to the cellular function*  
**10:00 - 10:30** **Leonor Saúde** (Lisboa, Portugal)  
*Differentiation and movement in a developing embryo*  
**10:30 - 11:00** Coffee break  
**11:00 - 11:15** **Berta Alsina** (Barcelona, Spain)  
*Mechanisms for lumen formation: 4D imaging of the inner ear*  
**11:15 - 11:30** **Michel Gho** (Paris, France)  
*Escargot and Scratch regulate neural commitment by antagonizing N-activity in Drosophila sensory organs*  
**11:30 - 11:45** **Harriet Taylor** (London, UK)  
*Sharpening of borders by Eph receptor and ephrin signaling requires cadherin-mediated coordination of cell movement*  
**11:45 - 12:00** **Sol Sotillos** (Seville, Spain)  
*Nuclear fallout provides a new link between aPKC and polarized cell trafficking*

- 12:00 - 12:30** **Ana Carmena** (Alicante, Spain)  
*The Hippo Signaling Pathway Regulates Asymmetric Cell Division*  
**12:30 - 13:00** **Juan R. Martinez-Morales** (Seville, Spain)  
*Quantitative analysis of cellular behaviour and cytoskeletal dynamics during optic cup morphogenesis in zebrafish*

- 13.00 - 15:00** Lunch

- 15.00 - 17:00** Free afternoon (choice of activities to be announced)  
**17.00 - 19:00** **Poster Session I**  
**19:00 - 20:00** Dinner

### SESSION II: STEM CELLS & DEVELOPMENT

Chair: Miguel Manzanares

- 20:00 - 20:30** **Berenika Plusa** (Manchester, UK)  
*Early lineage specification in mammalian embryos*  
**20:30 - 21:00** **Sally Lowell** (Edinburgh, UK)  
*Variability and unpredictability during differentiation of pluripotent cells: the influence of cell adhesion and tissue organization*  
**21:00 - 21:15** **Octavian Voiculescu** (Cambridge, UK)  
*Cell lineages and molecular profile of the axial stem zone*  
**21:15 - 21:45** **Andrew Johnson** (Nottingham, UK)  
*Nanog activity establishes forward momentum in the primitive ectoderm of vertebrate embryos and is conserved in basal metazoans*

## FRIDAY, 9<sup>TH</sup> OCTOBER

### SESSION III: ORGANOGENESIS I

Chair: Fernando Giraldez

- 09:00 - 09:30** **François Guillemot** (London, UK)  
*Signals and factors regulating adult brain stem cells*  
**09:30 - 10:00** **Claudia Barros** (Plymouth, UK)  
*Neural Stem Cell Dereglulation: A Single-Cell Screening approach to Brain Tumour Initiation*

**10:00 - 10:30** **Rita Sousa Nunes** (London, UK)  
*Employing Drosophila to uncover neural tumour - microenvironment interactions*

**10:30 - 10:45** **Flogentec** - Biologic Research Equipment  
*The biology device, FLO400: make your W-ISH faster*

**10:45 - 11:15** Coffee break

**11:15 - 11:30** **Gonçalo Neto** (Illkirch, France)  
*Control of embryo and brain symmetry by the retinoic acid coactivator Rere*

**11:30 - 11:45** **Claudia Linker** (London, UK)  
*Leader cells define directionality of trunk, but not of cranial neural crest migration*

**11:45 - 12:00** **Rui Monteiro** (Oxford, UK)  
*Transforming Growth Factor beta enables Notch signalling in endothelium to generate haematopoietic stem cells*

**11:45 - 12:00** **Julien Marcetteau** (Oeiras, Portugal)  
*Understanding the mechanisms maintaining haemocyte proportions in Drosophila melanogaster*

**12:15 - 12:45** **Anna Philpott** (Cambridge, UK)  
*Division versus differentiation in the developing nervous system*

**12:45 - 13:15** **Elisa Marti** (Barcelona, Spain)  
*Sonic hedgehog signaling controls the mode of division in the developing nervous system*

**13.15 - 15:00** Lunch

**15.00 - 17:00** Free afternoon (choice of activities to be announced)

**17.00 - 19:00** **Poster Session II**

**19:00 - 20:00** Dinner

#### SESSION IV: ORGANOGENESIS II

Chair: **Tristan Rodriguez**

**20:00 - 20:30** **Rui Martinho** (Faro, Portugal)  
*Regulation of transcriptional reactivation of the oocyte during meiosis*

**20:30 - 21:00** **Andrew Oates** (London, UK)  
To be announced

**21:00 - 21:15** **Allistair McGregor** (Oxford, UK)  
*How to build a spider: Dynamic interplay between Wnt and Delta-Notch signalling directs even skipped expression during segment addition in Parasteatoda tepidariorum*

**21:15 - 21:45** **Rui Benedito** (Madrid, Spain)  
*Strategies for conditional mosaic gene function analysis in the mouse and stem cells*

#### SATURDAY, 10<sup>TH</sup> OCTOBER

#### SESSION V: GENE EXPRESSION IN DEVELOPMENT

Chair: **Sólveig Thorsteinsdóttir**

**09:00 - 09:30** **Ana Pombo** (Berlin, Germany)  
*RNA surveillance at Polycomb repressed genes in mouse ES cells*

**09:30 - 10:00** **José Luís Gomez-Skarmeta** (Seville, Spain)  
*Gene regulation dynamics and chromatin architecture during development and evolution*

**10:10 - 10:15** **J. Lopez-Rios** (Basel, Switzerland)  
*Mechanisms underlying the evolutionary inactivation of the Ptch1 limb enhancer in artiodactyls*

**10:15 - 10:30** **Melisa Gomez Velasquez** (Madrid, Spain)  
*Regulation of Genome Architecture during Heart Development*

**10:30 - 10:45** **Alexandre Raposo** (Oeiras, Portugal)  
*Ascl1 coordinately regulates gene expression and the chromatin landscape during neurogenesis*

**10:45 - 11:00** **Natalia Soshnikova** (Mainz, Germany)  
*Two Distinct Embryonic Cell Populations Contribute to the Adult Intestinal Stem Cell Pool*

**11:00 - 11:30** Coffee break

**11:30 - 12:30** **Plenary: Moisés Mallo** (Oeiras, Portugal)  
*Making trunk or tail structures: who decides?*

**12:30 - 13:00** Farewell

**13:30 -15:00** Lunch



# Science on the Beach: report of the joined BSDB/SEBD/SPBD Autumn Meeting by Ana Ribeiro

On 7-10 Oct 2015 the **Joint meeting of the BSDB with the Spanish and Portuguese Societies of Developmental Biology** took place on a sea side resort of the Algarve in Portugal, organised by António Jacinto, Domingos Henrique, Miguel Manzanares, Josh Brickman and Kate Storey. Please read this **meeting report** by **Ana Ribeiro** which was first published on **The Node**.



SPBD



SEBD



BSDB

A Portuguese, a Spanish and a British person meet in a bar... and start discussing developmental biology. This may sound like the beginning of a joke, but in fact happened during the Joint Meeting of the Portuguese, Spanish and British Societies for Developmental Biology, which took place in Algarve, Portugal, in early October. The meeting venue, besides having the aforementioned bar, was also closely located to the beach, which we were able to enjoy thanks to a pleasant weather. Some of the participants also took advantage of the beautiful and family-friendly location to bring their own families. Nevertheless, the scientific talks and poster sessions still managed to draw the participants away from the seaside.

The meeting started with early development, with a plenary lecture on the principles of pluripotency presented by **Austin Smith**. The lecture focused on the ongoing quest to establish human naïve embryonic stem cells in vitro independently of pluripotency transgenes, showing the progresses achieved so far and presenting the challenges that still need to be overcome.

The transition from pluripotency to lineage commitment was explored by **Sally Lowell**, whose work identified some of the factors that prime cells for differentiation and revealed a role for adhesion molecules in the decision to differentiate. **Berenika Plusa** presented the advantages of using rabbit as

an alternative model to study early mammalian development. **Andrew Johnson** showed that axolotl, an organism without extraembryonic tissues, can be used to study later roles of the pluripotency factor Nanog.

The regulation of neuronal differentiation was also the focus of several talks. **Kate Storey** showed how differentiating neurons in the chick neural tube undergo apical abscission and revealed new evidence for the involvement of microtubule dynamics and adhesion molecules in this process. Also in the chick neural tube, **Elisa Marti** presented work on the role of Shh signalling in the decision to proliferate or differentiate and showed that the subcellular localisation of several Shh pathway components contributes for this decision. **Anna Philpott** also talked about division/differentiation in the nervous system and the regulation of proneural factor activity by phosphorylation in *Xenopus*. **François Guillemot** highlighted the role of the proneural factor Ascl1 in adult brain neurogenesis and how modulation of Ascl1 stability affects the balance between quiescence and differentiation. The talk by **Alexandre Raposo** was also on Ascl1 and its function promoting chromatin accessibility during neurogenesis.

The link between adult neural stem cells and cancer was discussed by two drosophilists. **Cláudia Barros** is using a fly brain tumour model to identify new factors involved in tumour initiation, while **Rita Sousa-Nunes** is using this model to study the interaction between tumour cells and the microenvironment.

Moving away from neural lineages, we also heard about regulation of proliferation, differentiation and cell movement of presomitic mesoderm progenitors from **Leonor Saúde** and single cell oscillators as components of the segmentation clock during somitogenesis from **Andrew Oates**.

Later in development, the formation of the inner ear lumen in zebrafish was introduced by **Berta**



**Alsina**, revealing that mitotic cell rounding and epithelial thinning regulate lumen expansion. **Juan R. Martinez-Morales** talked about optic cup morphogenesis in zebrafish, showing that both rim involution and basal constriction contribute to cup folding. Zebrafish embryos were also the stars in the beautiful movies shown by **Claudia Linker**, whose work combined live imaging with cell ablation to test the role of leader, follower and pre-migratory cells in the collective migration of neural crest cells.

At the chromatin level, **Ana Pombo** proposed that the priming of developmental genes for future expression in embryonic stem cells involves the Polycomb complex, a specific modification of the RNA polymerase II and local transcript degradation. **Rui Martinho** showed how chromatin remodelling is involved in the transcriptional reactivation of the *Drosophila* oocyte during meiosis. **Javier Lopez-Rios** presented his work on a limb-specific enhancer responsible for the spatial differences in *Ptch1* expression between mice and bovine, which underlies their distinct limb anatomy.

The meeting ended with a plenary talk by **Moisés Mallo**, who presented his work on Gdf11 as the coordinator of the trunk to tail decision during vertebrate embryogenesis and revealed an unexpected role for a pluripotency gene in trunk specification.

The meeting included many other exciting talks that have not been reported here. Overall, the meeting programme showcased the diversity of the developmental biology field in terms of subjects and model systems. The meeting also achieved a perfect gender balance among speakers - 17 female and 17 male speakers. Outside the lecture hall, scientific discussions continued throughout the free afternoons and outdoor poster sessions while enjoying the warm weather. And, of course, in the bar.

As the meeting came to an end, the sunny weather turned into a rainy storm, which made the departure a little less sorrowful.

*Ana Ribeiro*

